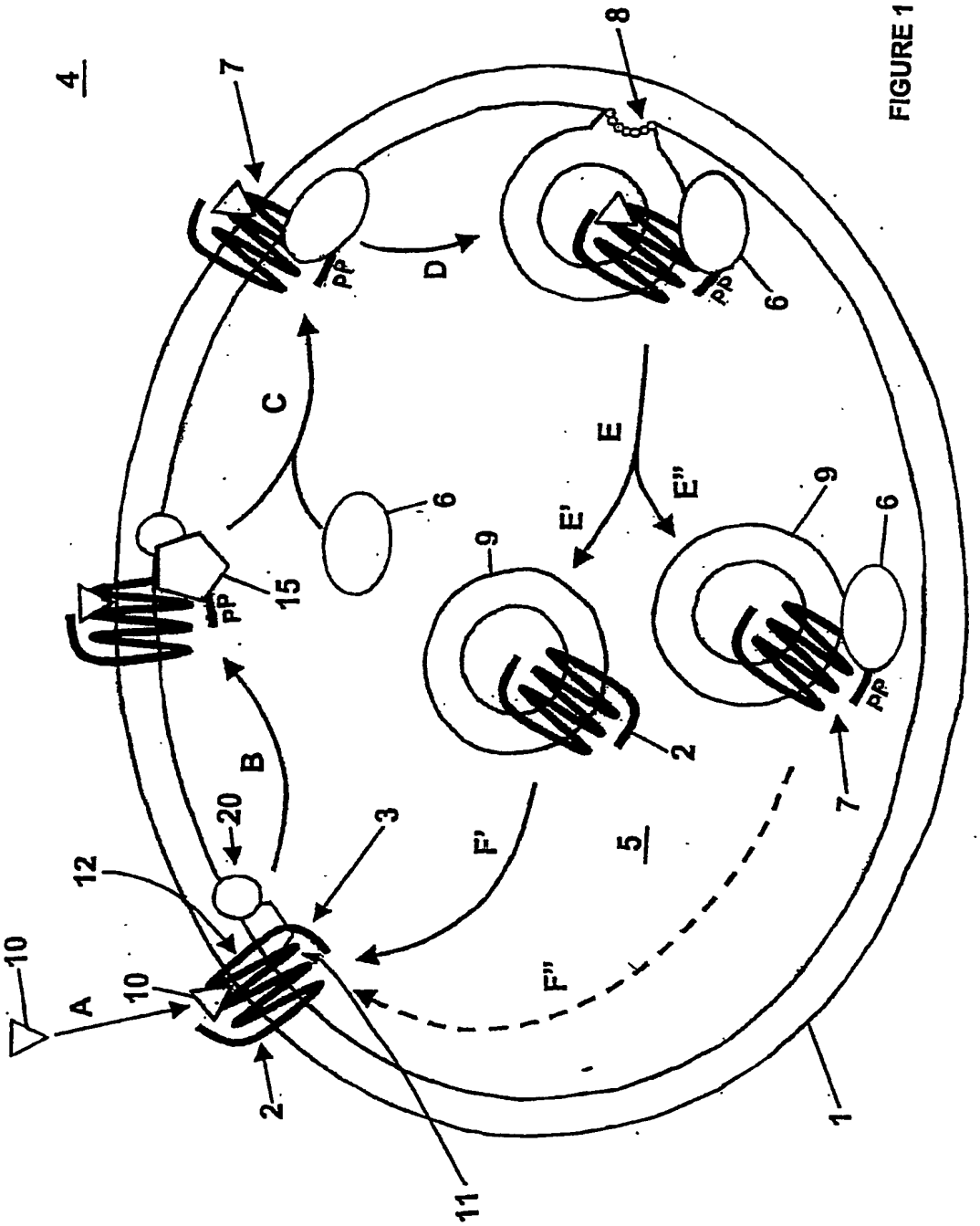

FIGURE 1

FIG. 2

Human G Protein Coupled Receptor Family
(Receptors known as of January, 1999)

CLASS LIGAND	NUMBER	TISSUE	PHYSIOLOGY	THERAPEUTICS
•Class I				
Rhodopsin like				
•Amine				
•Acetylcholine (muscarinic & nicotinic)	5	Brain, Nerves, Heart	Neurotransmitter	Acuity, Alzheimer's
•Adrenoceptors				
•Alpha Adrenoceptors	6	Brain, Kidney, Lung	Gluconeogenesis	Diabetes, Cardiovascular
•Beta Adrenoceptors	3	Kidney, Heart	Muscle Contraction	Cardiovascular, Respiratory
•Dopamine	5	Brain, Kidney, GI	Neurotransmitter	Cardiovascular, Parkinson's
•Histamine	2	Vascular, Heart, Brain	Vascular Permeability	Anti-inflammatory, Ulcers
•Serotonin (5-HT)	16	Most Tissues	Neurotransmitter	Depression, Insomnia, Analgesic
•Peptide				
•Angiotensin	2	Vascular, Liver, Kidney	Vasoconstriction	Cardiovascular, Endocrine
•Bradykinin	1	Liver, Blood	Vasodilation,	Anti-inflammatory, Asthma
•C5a-anaphylatoxin	1	Blood	Immune System	Anti-inflammatory
•Fmet-leu-phe	3	Blood	Chemoattractant	Anti-inflammatory
•Interleukin-8	1	Blood	Chemoattractant	Anti-inflammatory
•Chemokine	6	Blood	Chemoattractant	Anti-inflammatory
•Orexin	2	Brain	Fat Metabolism	Obesity
•Nociceptin	1	Brain	Bronchodilator, Pain	Airway Diseases, Anesthetic
•CCK (Gastrin)	2	Gastrointestinal	Motility, Fat Absorption	Gastrointestinal, Obesity, Parkinson's
•Endothelin	2	Heart, Bronchus, Brain	Muscle Contraction	Cardiovascular, Respiratory
•Melanocortin	5	Kidney, Brain	Metabolic Regulation	Anti-inflammatory, Analgesics
•Neuropeptide Y	5	Nerves, Intestine, Blood	Neurotransmitter	Behavior, Memory, Cardiovascular
•Neurotensin	1	Brain,	CNS	Cardiovascular, Analgesic
•Opioid	3	Brain,	CNS	Depression, Analgesic
•Somatostatin	5	Brain, Gastrointestinal	Neurotransmitter	Oncology, Alzheimer's

FIG. 2 (cont.)

•Tachykinin (Substance P, NKA_1)	3	Brain Nerves	Neurohormone	Depression, Analgesic
•Thrombin	3	Platelets, Blood Vessels	Coagulation	Anti-coagulant, Anti-inflammatory
•Vasopressin-like	4	Arteries, Heart, Bladder	Water Balance	Anti-diuretic, Diabetic Complications
•Galanin	1	Brain, Pancreas	Neurotransmitter	Analgesics, Alzheimer's
•Hormone protein				
•Follicle stimulating hormone	1	Ovary, Testis	Endocrine	Infertility
•Lutropin-choriogonadotropic	1	Ovary, Testis	Endocrine	Infertility
•Thyrotropin	1	Thyroid	Endocrine	Thyroidism, Metabolism
• (Rhod)opsin				
•Opsin	5	Eye	Photoreception	Ophthalmic Diseases
•Olfactory	4(~1000)	Nose	Smell	Olfactory Diseases
•Prostanoid				
•Prostaglandin	5	Arterial, Gastrointestinal	Vasodilation, Pain	Cardiovascular, Analgesic
•Lysophosphatidic Acid	2	Vessels, Heart, Lung	Inflammation	Cancer, Anti-Inflammatory
•Sphingosine-1-phosphate	2	Most Cells	Cell proliferation	Cancer
•Leukotriene	1	White Blood Cells, Bronchus	Inflammation	Asthma, Rheumatoid Arthritis
•Prostacyclin	1	Arterial, Gastrointestinal	Platelet Regulation	Cardiovascular
•Thromboxane	1	Arterial, Bronchus	Vasoconstriction	Cardiovascular, Respiratory
•Nucleotide-like				
•Adenosine	4	Vascular, Bronchus	Multiple Effects	Cardiovascular, Respiratory
•Purinoceptors	4	Vascular, Platelets	Relaxes Muscle	Cardiovascular, Respiratory
•Cannabis 2	Brain	Sensory Perception	Analgesics, Memory	
•Platelet activating factor	1	Most Peripheral Tissues	Inflammation	Anti-inflammatory, Anti-asthmatic
•Gonadotropin-releasing hormone like				
•Gonadotropin-releasing hormone	1	Reproductive Organs, Pituitary	Reproduction	Prostate Cancer, Endometriosis
•Thyrotropin-releasing hormone	1	Pituitary, Brain	Thyroid Regulation	Metabolic Regulation
•Growth hormone-inhibiting factor	1	Gastrointestinal	Neuroendocrine	Oncology, Alzheimer's
•Melatonin	1	Brain, Eye, Pituitary	Neuroendocrine	Regulation of Circadian Cycle

FIG. 2 (cont.)

•Class II					
Secretin like					
	•Secretin	1	Gastrointestinal, Heart	Digestion	Obesity, Gastrointestinal
	•Calcitonin	1	Bone, Brain	Calcium Resorption	Osteoporosis
	•Corticotropin releasing factor/urocortin	1	Adrenal, Vascular, Brain	Neuroendocrine	Stress, Mood, Obesity
	•Gastric inhibitory peptide (GIP)	1	Adrenals, Fat Cells	Sugar/Fat Metabolism	Diabetes, Obesity
	•Glucagon 1	Liver, Fat Cells, Heart		Gluconeogenesis	Cardiovascular
	•Glucagon-like Peptide 1 (GLP-1)	1	Pancreas, Stomach, Lung	Gluconeogenesis	Cardiovascular, Diabetes, Obesity
	•Growth hormone-releasing hormone	1	Brain	Neuroendocrine	Growth Regulation
	•Parathyroid hormone	1	Bone, Kidney	Calcium Regulation	Osteoporosis
	•PACAP	1	Brain, Pancreas, Adrenals	Metabolism	Metabolic Regulation
	•Vasoactive intestinal polypeptide (VIP)	1	Gastrointestinal	Motility	Gastrointestinal
•Class III					
	•Metabotropic Glutamate	7	Brain	Sensory Perception	Hearing, Vision
	•$GABA_B$	1	Brain	Neurotransmitter	Mood Disorders
	•Extracellular Calcium Sensing	1	Parathyroid, Kidney, GI Tract	Calcium Regulation	Cataracts, GI Tumors

Figure 3

G protein-coupled receptors:
(Division into Class A
Or Class B)

1. **A1 adenosine receptor** [Homo sapiens]. ACCESSION AAB25533
NPIVYAF RIQKFRVTFL KIWNDHFRCQ PAPPIDEDLP EERPDD
Class A (SEQ ID NO: 1)

2. **adrenergic, alpha -1B-, receptor** [Homo sapiens]. ACCESSION NP_000670
npiiypc sskefkrafv rilgcqcrgr grrrrrrrr lggcaytyrp wtrggslers qsrkdsldds gsclsgsqrt lpsaspspgy lgrgapppve lcafpewkap gallslpape ppgrrgrhds gplftfkllt epespgtdgg asnggceaaa dvangqpgfk snmplapgqf
Class A (SEQ ID NO: 2)

3. **adrenergic receptor alpha-2A** [Homo sapiens]. ACCESSION AAG00447
npviytifn hdfrrafkki lcrgdrkriv
Class A (SEQ ID NO: 3)

4. **alpha-2B-adrenergic receptor** - human. ACCESSION A37223
npviytifn qdfrrafrri lcrpwtqtaw
Class A (SEQ ID NO: 4)

5. **alpha-2C-adrenergic receptor** - human. ACCESSION A31237
npviytvfn qdfrpsfkhi lfrrrrgfr q
Class A (SEQ ID NO: 5)

6. **beta-1-adrenergic receptor** [Homo sapiens]. ACCESSION NP_000675
npiiycrs pdfrkafqgl lccarraarr rhathgdrpr asgclarpgp ppspgaasdd ddddvvgatp parllepwag cnggaaadsd ssldepcrpg faseskv
Class A (SEQ ID NO: 6)

7. **beta-2 adrenergic receptor.** ACCESSION P07550
npliycrsp dfriafqell clrrsslkay gngyssngnt 361 geqsgyhveq ekenkllced lpgtedfvgh qgtvpsdnid sqgrncstnd sll
Class A (SEQ ID NO: 7)

8. **dopamine receptor D1** [Homo sapiens]. ACCESSION NP_000785
npii yafnadfrka fstllgcyrl cpatnnaiet vsinnngaam fsshheprgs iskecnlvyl iphavgssed lkkeeaagia rpleklspal svildydtdv slekiqpitq ngqhpt
Class A (SEQ ID NO: 8)

9. **D(2) dopamine receptor.** ACCESSION P14416
npiiyttfn iefrkaflki lhc
Class A (SEQ ID NO: 9)

Figure 3 (cont.)

10. **d3 dopamine receptor** - human. ACCESSION G01977
np viyttfnief rkaflkilsc
Class A (SEQ ID NO: 10)

11. **dopamine receptor D4** - human. ACCESSION DYHUD4
npviytv fnaefrnvfr kalracc
Class A (SEQ ID NO: 11)

12. **dopamine receptor D5** - human. ACCESSION DYHUD5
npviya fnadfqkvfa qllgcshfcs rtpvetvnis nelisynqdi vfhkeiaaay ihmmpnavtp gnrevdndee egpfdrmfqi yqtspdgdpv aesvweldce geisldkitp ftpngfh
Class A (SEQ ID NO: 12)

13. **muscarinic acetylcholine receptor M1** [Homo sapiens]. ACCESSION NP_000729
npmcyal cnkafrdtfr llllcrwdkr rwrkipkrpg svhrtpsrqc
Class A (SEQ ID NO: 13)

14. **muscarinic acetylcholine receptor M2** [Homo sapiens]. ACCESSION NP_000730
npacy alcnatfkkt fkhllmchyk nigatr
Class A (SEQ ID NO: 14)

15. **muscarinic acetylcholine receptor M3 [Homo sapiens].** ACCESSION NP_000731
n pvcyalcnkt frttfkmlll cqcdkkkrrk qqyqqrqsvi fhkrapeqal
Class A (SEQ ID NO: 15)

16. **muscarinic acetylcholine receptor M4** [Homo sapiens]. ACCESSION NP_000732
npa cyalcnatfk ktfrhlllcq ymigtar
Class A (SEQ ID NO: 16)

17. **m5 muscarinic receptor.** locus HUMACHRM ACCESSION AAA51569
npicyalcnr tfrktfkmll lcrwkkkkve eklywqgnsk lp
Class A (SEQ ID NO: 17)

18. **5-hydroxytryptamine (serotonin) receptor 1A** [Homo sapiens]. ACCESSION BAA90449
npviy ayfnkdfqna fkkiikckf
Class A (SEQ ID NO: 18)

19. **5-hydroxytryptamine (serotonin) receptor 1B** [Homo sapiens]. ACCESSION BAA94455
npiiyt msnedfkqaf hklirfkcts
Class A (SEQ ID NO: 19)

20. **5-hydroxytryptamine (serotonin) receptor 1E** [Homo sapiens]. ACCESSION BAA94458
n pllytsfned fklafkklir cre
Class A (SEQ ID NO: 20)

Figure 3 (cont.)

21. **OLFACTORY RECEPTOR 6A1.** ACCESSION O95222
npiiyclrnq evkralccil hlyqhqdpdp kkgsrnv
Class A (SEQ ID NO: 21)

22. **OLFACTORY RECEPTOR 2C1.** ACCESSION O95371
npliy tlrnmevkga lrrllgkgre vg
Class A (SEQ ID NO: 22)

23. **angiotensin receptor 1 [Homo sapiens].** ACCESSION NP_033611
npl fygflgkkfk ryflqllkyi ppkakshsnl *sf*kms*fl*syr psdnv*ssst*k kpapcfeve
Class B (SEQ ID NO: 23)

24. **angiotensin receptor 2** [Homo sapiens]. ACCESSION NP_000677
npflycf vgnrfqqklr svfrvpitwl qgkresmscr kssslremet fvs
Class B (SEQ ID NO: 24)

25. **interleukin 8 receptor beta (CXCR2)** [Homo sapiens]. ACCESSION NM_001557
NPLIYAFIGQKFRHGLLKILAIHGLISKDSLPKDSRPSFVGSSSGHTSTTL
Class B (SEQ ID NO: 25)

26. **cx3c chemokine receptor 1** (cx3cr1) (fractalkine receptor)
ACCESSION P49238
np liyafagekf rrylyhlygk clavlcgrsv hvdfsssesq rsrhgsvlss nftyhtsdgd allll
Class B (SEQ ID NO: 26)

27. **neurotensin receptor - human.** ACCESSION S29506
n pilynlvsan frhiflatla clcpvwrrrr krpafsrkad svssnhflss natretly
Class B (SEQ ID NO: 27)

28. **SUBSTANCE-P RECEPTOR (SPR)** (NK-1 RECEPTOR) (NK-1R). ACCESSION P25103
npiiyccind rfrlgfkhaf rccpfisagd yeglemkstr ylqtqgsvyk vsrl*ettist*vvgaheeepe dgpkat*p*ssl
dltsnc*s*sr*s* dsktmtesfs fssnvls
Class B (SEQ ID NO: 28)

29. **vasopressin receptor type 2** [Homo sapiens]. ACCESSION AAD16444
npwiyasfss svsselrsll ccargrtpps lgpqdesc*tt* assslakd*ts s*
Class B (SEQ ID NO: 29)

30. **thyrotropin-releasing hormone receptor** - human. ACCESSION JN0708
npviy nlmsqkfraa frklcnckqk ptekpanysv alnysvikes dhfstelddi *tvtd*t*y*ls*at* kvsfddtcla sevsfsqs
Class B (SEQ ID NO: 30)

Figure 3 (cont.)

31. **oxytocin receptor - human.** ACCESSION A55493
npwiym lftghlfhel vqrflccsas ylkgrrlget saskksnsss fvlshrsssq rscsqpsta
Class B (SEQ ID NO: 31)

32. **neuromedin U receptor [Homo sapiens].** ACCESSION AAG24793
npvlyslmssrfretfqealclgacchrlrprhsshslsrmttgstlcdvgslgswvhplagndgpeaqqetdps
Class B (SEQ ID NO: 32)

33. **gastrin receptor.** ACCESSION AAC37528
nplvy cfmhrrfrqa cletcarccp rpprarpral pdedpptpsi aslsrlsytt *is*flgpg
Class B (SEQ ID NO: 33)

34. **galanin receptor 3 [Homo sapiens].** ACCESSION 10879541
nplv yalasrhfra rfrrlwpcgr rrrhrarral rrvrpassgp pgcpgdarps grllagggqg pepregpvhg geaargpe
Class A (SEQ ID NO: 34)

35. **edg-1** - human. ACCESSION A35300
npiiy tltnkemrra firimscckc psgdsagkfk rpiiagmefs rskšdnsshp 361 qkdegdnpet imssgnvnss s
Class A (SEQ ID NO: 35)

36. **central cannabinoid receptor** [Homo sapiens]. ACCESSION NP_057167
npiiyalr skdlrhafrs mfpscegtaq pldnsmgdsd clhkhannaa svhraaesci kstvkiakvt msvstdtsae al
Class A (SEQ ID NO: 36)

37. **delta opioid receptor** - human. ACCESSION I38532
npvlyaf ldenfkrcfr qlcrkpcgrp dpssfsrpre atarervtac tpsdgpgggr aa
Class A (SEQ ID NO: 37)

38. **proteinase activated receptor 2 (PAR-2)** human. ACCESSION P55085
dpfvyyfvshdfrdhaknallcrsvrtvkqmqvsltskkhsrksssyssssttvktsy
Class A (SEQ ID NO: 38)

39. **vasopressive intestinal peptide receptor (VIPR) rat.** ACCESSION NM_012685
NGEVQAELRRKWRRWHLQGVLGWSSKSQHPWGGSNGATCSTQVSMLTRVSPSARR
SSSFQAEVSLV
Class B (SEQ ID NO: 39)

Figure 4A
Amino Acid sequence of the hGPR3- Enhanced Receptor

MMWGAGSPLAWLSAGSGNVNVSSVGPAEGPTGPAAPLPSPKAWDVVLCISGTLVSCE
NALVVAIIVGTPAFRAPMFLLVGSLAVADLLAGLGLVLHFAAVFCIGSAEMSLVLVG
VLAMAFTASIGSLLAITVDRYLSLYNALTYYSETTVTRTYVMLALVWGGALGLGLLP
VLAWNCLDGLTTCGVVYPLSKNHLVVLAIAFFMVFGIMLQLYAQICRIVCRHAQQIA
LQRHLLPASHYVATRKGIATLAVVLGAFAACWLPFTVYCLLGDAHSPPLYTYLTLLP
ATYNSMINPIIYAFRNQDVQKVLWAVCCCCAAARGRTPPSLGPQDESCTTASSSLAK
DTSS
(SEQ ID No: 40)

Figure 4B
Nucleotide sequence of the hGPR3- Enhanced Receptor

ATGATGTGGGGTGCAGGCAGCCCTCTGGCCTGGCTCTCAGCTGGCTCAGGCAACGTG
AATGTAAGCAGCGTGGGCCCAGCAGAGGGGCCCACAGGTCCAGCCGCACCACTGCCC
TCGCCTAAGGCCTGGGATGTGGTGCTCTGCATCTCAGGCACCCTGGTGTCCTGCGAG
AATGCGCTAGTGGTGGCCATCATCGTGGGCACTCCTGCCTTCCGTGCCCCCATGTTC
CTGCTGGTGGGCAGCCTGGCCGTGGCAGACCTGCTGGCAGGCCTGGGCCTGGTCCTG
CACTTTGCTGCTGTCTTCTGCATCGGCTCAGCGGAGATGAGCCTGGTGCTGGTTGGC
GTGCTGGCAATGGCCTTTACYGCCAGCATCGGCAGTCTACTGGCCATCACTGTCGAC
CGCTACCTTTCTCTGTACAATGCCCTCACCTACTATTCAGAGACAACAGTGACACGG
ACCTATGTGATGCTGGCCTTAGTGTGGGGAGGTGCCCTGGGCCTGGGGCTGCTGCCT
GTGCTGGCCTGGAACTGCCTGGATGGCCTGACCACATGTGGCGTGGTTTATCCACTC
TCCAAGAACCATCTGGTAGTTCTGGCCATTGCCTTCTTCATGGTGTTTGGCATCATG
CTGCAGCTCTACGCCCAAATCTGCCGCATCGTCTGCCGCCATGCCCAGCAGATTGCC
CTTCAGCGGCACCTGCTGCCTGCCTCCCACTATGTGGCCACCCGCAAGGGCATTGCC
ACACTGGCCGTGGTGCTTGGAGCCTTTGCCGCCTGCTGGTTGCCCTTCACTGTCTAC
TGCCTGCTGGGTGATGCCCACTCTCCACCTCTCTACACCTATCTTACCTTGCTCCCT
GCCACCTACAACTCCATGATCAACCCTATCATCTACGCCTTCCGCAACCAGGATGTG
CAGAAAGTGCTGTGGGCTGTCTGCTGCTGCTGTGCGGCCGCACGGGGACGCACCCCA
CCCAGCCTGGGTCCCCAAGATGAGTCCTGCACCACCGCCAGcTCCTCCCTGGCCAAG
GACACTTCATCGTGA
(SEQ ID No: 41)

Figure 4C
Amino Acid sequence of the hGPR6- Enhanced Receptor

MNASAASLNDSQVVVVAAEGAAAAATAAGGPDTGEWGPPAAAALGAGGGANGSLELS
SQLSAGPPGLLLPAVNPWDVLLCVSGTVIAGENALVVALIASTPALRTPMFVLVGSL
ATADLLAGCGLILHFVFQYLVPSETVSLLTVGFLVASFAASVSSLLAITVDRYLSLY
NALTYYSRRTLLGVHLLLAATWTVSLGLGLLPVLGWNCLAERAACSVVRPLARSHVA
LLSAAFFMVFGIMLHLYVRICQVVWRHAHQIALQQHCLAPPHLAATRKGVGTLAVVL
GTFGASWLPFAIYCVVGSHEDPAVYTYATLLPATYNSMINPIIYAFRNQEIQRALWL
LLCGCAAARGRTPPSLGPQDESCTTASSSLAKDTSS
(SEQ ID No: 42)

Figure 4D
Nucleotide sequence of the hGPR6- Enhanced Receptor

ATGAACGCGAGCGCCGCCTCGCTCAACGACTCCCAGGTGGTGGTAGTGGCGGCCGAA
GGAGCGGCGGCGGCGGCCACAGCAGCAGGGGGGCCGGACACGGGCGAATGGGGACCC
CCTGCTGCGGCGGCTCTAGGAGCCGGCGGCGGAGCTAATGGGTCTCTGGAGCTGTCC
TCGCAGCTGTCGGCTGGGCCACCGGGACTCCTGCTGCCAGCGGTGAATCCGTGGGAC
GTGCTCCTGTGCGTGTCGGGGACAGTGATCGCTGGAGAAAACGCGCTGGTGGTGGCG
CTCATCGCGTCCACTCCGGCGCTGCGCACGCCCATGTTCGTGCTGGTAGGCAGCCTG
GCCACCGCTGACCTGTTGGCGGGCTGTGGCCTCATCTTGCACTTTGTGTTCCAGTAC
TTGGTGCCCTCGGAGACTGTGAGTCTGCTCACGGTGGGCTTCCTCGTGGCCTCCTTC
GCCGCCTCTGTCAGCAGCCTGCTGGCCATTACGGTGGACCGCTACCTGTCCCTGTAT
AACGCGCTCACCTATTACTCGCGCCGGACCCTGTTGGGCGTGCACCTCCTGCTTGCC
GCCACTTGGACCGTGTCCCTAGGCCTGGGGCTGCTGCCCGTGCTGGGCTGGAACTGC
CTGGCAGAGCGCGCCGCCTGCAGCGTGGTGCGCCCGCTGGCGCGCAGCCACGTGGCT
CTGCTCTCCGCCGCCTTCTTCATGGTCTTCGGCATCATGCTGCACCTGTACGTGCGC
ATCTGCCAGGTGGTCTGGCGCCACGCGCACCAGATCGCGCTGCAGCAGCACTGCCTG
GCGCCACCCCATCTCGCTGCCACCAGAAAGGGTGTGGGTACACTGGCTGTGGTGCTG
GGCACTTTCGGCGCCAGCTGGCTGCCCTTCGCCATCTATTGCGTGGTGGGCAGCCAT
GAGGACCCGGCGGTCTACACTTACGCCACCCTGCTGCCCGCCACCTACAACTCCATG
ATCAATCCCATCATCTATGCCTTCCGCAACCAGGAGATCCAGCGCGCCCTGTGGCTC
CTGCTCTGTGGCTGTGCGGCCGCACGGGGACGCACCCCACCCAGCCTGGGTCCCCAA
GATGAGTCCTGCACCACCGCCAGCTCCTCCCTGGCCAAGGACACTTCATCGTGA
(SEQ ID No: 43)

Figure 4E
Amino Acid sequence of the hGPR12- Enhanced Receptor

MNEDLKVNLSGLPRDYLDAAAAENISAAVSSRVPAVEPEPELVVNPWDIVLCTSGTL
ISCENAIVVLIIFHNPSLRAPMFLLIGSLALADLLAGIGLITNFVFAYLLQSEATKL
VTIGLIVASFSASVCSLLAITVDRYLSLYYALTYHSERTVTFTYVMLVMLWGTSICL
GLLPVMGWNCLRDESTCSVVRPLTKNNAAILSVSFLFMFALMLQLYIQICKIVMRHA
HQIALQHHFLATSHYVTTRKGVSTLAIILGTFAACWMPFTLYSLIADYTYPSIYTYA
TLLPATYNSIINPVIYAFRNQEIQKALCLICCGCAAARGRTPPSLGPQDESCTTASS
SLAKDTSS
(SEQ ID No: 44)

Figure 4F
Nucleotide sequence of the hGPR12- Enhanced Receptor

ATGAATGAAGACCTGAAGGTCAATTTAAGCGGGCTGCCTCGGGATTATTTAGATGCC
GCTGCTGCGGAGAACATCTCGGCTGCTGTCTCCTCCCGGGTTCCTGCCGTAGAGCCA
GAGCCTGAGCTCGTAGTCAACCCCTGGGACATTGTCTTGTGTACCTCGGGAACCCTC
ATCTCCTGTGAAAATGCCATTGTGGTCCTTATCATCTTCCACAACCCCAGCCTGCGA
GCACCCATGTTCCTGCTAATAGGCAGCCTGGCTCTTGCAGACCTGCTGGCCGGCATT
GGACTCATCACCAATTTTGTTTTTGCCTACCTGCTTCAGTCAGAAGCCACCAAGCTG
GTCACGATCGGCCTCATTGTCGCCTCTTTCTCTGCCTCTGTCTGCAGCTTGCTGGCT
ATCACTGTTGACCGCTACCTCTCACTGTACTACGCTCTGACGTACCATTCGGAGAGG
ACGGTCACGTTTACCTATGTCATGCTCGTCATGCTCTGGGGGACCTCCATCTGCCTG
GGGCTGCTGCCCGTCATGGGCTGGAACTGCCTCCGAGACGAGTCCACCTGCAGCGTG
GTCAGACCGCTCACCAAGAACAACGCGGCCATCCTCTCGGTGTCCTTCCTCTTCATG
TTTGCGCTCATGCTTCAGCTCTACATCCAGATCTGTAAGATTGTGATGAGGCACGCC
CATCAGATAGCCCTGCAGCACCACTTCCTGGCCACGTCGCACTATGTGACCACCCGG
AAAGGGGTCTCCACCCTGGCTATCATCCTGGGGACGTTTGCTGCTTGCTGGATGCCT
TTCACCCTCTATTCCTTGATAGCGGATTACACCTACCCCTCCATCTATACCTACGCC
ACCCTCCTGCCCGCCACCTACAATTCCATCATCAACCCTGTCATATATGCTTTCAGA
AACCAAGAGATCCAGAAAGCGCTCTGTCTCATTTGCTGCGGCTGCGCGGCCGCACGG
GGACGCACCCCACCCAGCCTGGGTCCCCAAGATGAGTCCTGCACCACCGCCAGCTCC
TCCCTGGCCAAGGACACTTCATCGTGA
(SEQ ID No: 45)

Figure 4G
Amino Acid sequence of the hSREB3- Enhanced Receptor

MANTTGEPEEVSGALSPPSASAYVKLVLLGLIMCVSLAGNAILSLLVLKERALHKAP
YYFLLDLCLADGIRSAVCFPFVLASVRHGSSWTFSALSCKIVAFMAVLFCFHAAFML
FCISVTRYMAIAHHRFYAKRMTLWTCAAVICMAWTLSVAMAFPPVFDVGTYKFIREE
DQCIFEHRYFKANDTLGFMLMLAVLMAATHAVYGKLLLFEYRHRKMKPVQMVPAISQ
NWTFHGPGATGQAAANWIAGFGRGPMPPTLLGIRQNGHAASRRLLGMDEVKGEKQLG
RMFYAITLLFLLLWSPYIVACYWRVFVKACAVPHRYLATAVWMSFAQAAVNPIVCFL
LNKDLKKCLRTHAPCAAARGRTPPSLGPQDESCTTASSSLAKDTSS
(SEQ ID No: 46)

Figure 4H
Nucleotide sequence of the hSREB3- Enhanced Receptor

ATGGCCAACACTACCGGAGAGCCTGAGGAGGTGAGCGGCGCTCTGTCCCCACCGTCC
GCATCAGCTTATGTGAAGCTGGTACTGCTGGGACTGATTATGTGCGTGAGCCTGGCG
GGTAACGCCATCTTGTCCCTGCTGGTGCTCAAGGAGCGTGCCCTGCACAAGGCTCCT
TACTACTTCCTGCTGGACCTGTGCCTGGCCGATGGCATACGCTCTGCCGTCTGCTTC
CCCTTTGTGCTGGCTTCTGTGCGCCACGGCTCTTCATGGACCTTCAGTGCACTCAGC
TGCAAGATTGTGGCCTTTATGGCCGTGCTCTTTTGCTTCCATGCGGCCTTCATGCTG
TTCTGCATCAGCGTCACCCGCTACATGGCCATCGCCCACCACCGCTTCTACGCCAAG
CGCATGACACTCTGGACATGCGCGGCTGTCATCTGCATGGCCTGGACCCTGTCTGTG
GCCATGGCCTTCCCACCTGTCTTTGACGTGGGCACCTACAAGTTTATTCGGGAGGAG
GACCAGTGCATCTTTGAGCATCGCTACTTCAAGGCCAATGACACGCTGGGCTTCATG
CTTATGTTGGCTGTGCTCATGGCAGCTACCCATGCTGTCTACGGCAAGCTGCTCCTC
TTCGAGTATCGTCACCGCAAGATGAAGCCAGTGCAGATGGTGCCAGCCATCAGCCAG
AACTGGACATTCCATGGTCCCGGGGCCACCGGCCAGGCTGCTGCCAACTGGATCGCC
GGCTTTGGCCGTGGGCCCATGCCACCAACCCTGCTGGGTATCCGGCAGAATGGGCAT
GCAGCCAGCCGGCGGCTACTGGGCATGGACGAGGTCAAGGGTGAAAAGCAGCTGGGC
CGCATGTTCTACGCGATCACACTGCTCTTTCTGCTCCTCTGGTCACCCTACATCGTG
GCCTGCTACTGGCGAGTGTTTGTGAAAGCCTGTGCTGTGCCCCACCGCTACCTGGCC
ACTGCTGTTTGGATGAGCTTCGCCCAGGCTGCCGTCAACCCAATTGTCTGCTTCCTG
CTCAACAAGGACCTCAAGAAGTGCCTGAGGACTCACGCCCCCTGCGCGGCCGCACGG
GGACGCACCCCACCCAGCCTGGGTCCCCAAGATGAGTCCTGCACCACCGCCAGCTCC
TCCCTGGCCAAGGACACTTCATCGTGA
(SEQ ID No: 47)

Figure 4I
Amino Acid sequence of the hSREB2- Enhanced Receptor

MANYSHAADNILQNLSPLTAFLKLTSLGFIIGVSVVGNLLISILLVKDKTLHRAPYY
FLLDLCCSDILRSAICFPFVFNSVKNGSTWTYGTLTCKVIAFLGVLSCFHTAFMLFC
ISVTRYLAIAHHRFYTKRLTFWTCLAVICMVWTLSVAMAFPPVLDVGTYSFIREEDQ
CTFQHRSFRANDSLGFMLLLALILLATQLVYLKLIFFVHDRRKMKPVQFVAAVSQNW
TFHGPGASGQAAANWLAGFGRGPTPPTLLGIRQNANTTGRRRLLVLDEFKMEKRISR
MFYIMTFLFLTLWGPYLVACYWRVFARGPVVPGGFLTAAVWMSFAQAGINPFVCIFS
NRELRRCFSTTLLYCAAARGRTPPSLGPQDESCTTASSSLAKDTSS
(SEQ ID No: 48)

Figure 4J
Nucleotide sequence of the hSREB2- Enhanced Receptor

ATGGCGAACTATAGCCATGCAGCTGACAACATTTTGCAAAATCTCTCGCCTCTAACA
GCCTTTCTGAAACTGACTTCCTTGGGTTTCATAATAGGAGTCAGCGTGGTGGGCAAC
CTCCTGATCTCCATTTTGCTAGTGAAAGATAAGACCTTGCATAGAGCACCTTACTAC
TTCCTGTTGGATCTTTGCTGTTCAGATATCCTCAGATCTGCAATTTGTTTCCCATTT
GTGTTCAACTCTGTCAAAAATGGCTCTACCTGGACTTATGGGACTCTGACTTGCAAA
GTGATTGCCTTTCTGGGGGTTTTGTCCTGTTTCCACACTGCTTTCATGCTCTTCTGC
ATCAGTGTCACCAGATACTTAGCTATCGCCCATCACCGCTTCTATACAAAGAGGCTG
ACCTTTTGGACGTGTCTGGCTGTGATCTGTATGGTGTGGACTCTGTCTGTGGCCATG
GCATTTCCCCCGGTTTTAGACGTGGGCACTTACTCATTCATTAGGGAGGAAGATCAA
TGCACCTTCCAACACCGCTCCTTCAGGGCTAATGATTCCTTAGGATTTATGCTGCTT
CTtGCTCTCATCCTCCTAGCCACACAGCTTGTCTACCTCAAGCTGATATTTTTCGTC
CACGATCGAAGAAAAATGAAGCCAGTCCAGTTTGTAGCAGCAGTCAGCCAGAACTGG
ACTTTTCATGGTCCTGGAGCCAGTGGCCAGGCAGCTGCCAATTGGCTAGCAGGATTT
GGAAGGGGTCCCACACCACCCACCTTGCTGGGCATCAGGCAAAATGCAAACACCACA
GGCAGAAGAAGGCTATTGGTCTTAGACGAGTTCAAAATGGAGAAAAGAATCAGCAGA
ATGTTCTATATAATGACTTTTCTGTTTCTAACCTTGTGGGGCCCCTACCTGGTGGCC
TGTTATTGGAGAGTTTTTGCAAGAGGGCCTGTAGTACCAGGGGGATTTCTAACAGCT
GCTGTCTGGATGAGTTTTGCCCAAGCAGGAATCAATCCTTTTGTCTGCATTTTCTCA
AACAGGGAGCTGAGGCGCTGTTTCAGCACAACCCTTCTTTACTGCGCGGCCGCACGG
GGACGCACCCCACCCAGCCTGGGTCCCCAAGATGAGTCCTGCACCACCGCCAGCTCC
TCCCTGGCCAAGGACACTTCATCGTGA
(SEQ ID No: 49)

Figure 4K
Amino Acid sequence of the hGPR8- Enhanced Receptor

MQAAGHPEPLDSRGSFSLPTMGANVSQDNGTGHNATFSEPLPFLYVLLPAVYSGICA
VGLTGNTAVILVILRAPKMKTVTNVFILNLAVADGLFTLVLPVNIAEHLLQYWPFGE
LLCKLVLAVDHYNIFSSIYFLAVMSVDRYLVVLATVRSRHMPWRTYRGAKVASLCVW
LGVTVLVLPFFSFAGVYSNELQVPSCGLSFPWPERVWFKASRVYTLVLGFVLPVCTI
CVLYTDLLRRLRAVRLRSGAKALGKARRKVTVLVLVVLAVCLLCWTPFHLASVVALT
TDLPQTPLVISMSYVITSLSYANSCLNPFLYAFLDDNFRKNFRSILRCAAARGRTPP
SLGPQDESCTTASSSLAKDTSS
(SEQ ID No: 50)

Figure 4L
Nucleotide sequence of the hGPR8- Enhanced Receptor

ATGCAGGCCGCTGGGCACCCAGAGCCCCTTGACAGCAGGGGCTCCTTCTCCCTCCCC
ACGATGGGTGCCAACGTCTCTCAGGACAATGGCACTGGCCACAATGCCACCTTCTCC
GAGCCACTGCCGTTCCTCTATGTGCTCCTGCCCGCCGTGTACTCCGGGATCTGTGCT
GTGGGGCTGACTGGCAACACGGCCGTCATCCTTGTAATCCTAAGGGCGCCCAAGATG
AAGACGGTGACCAACGTGTTCATCCTGAACCTGGCCGTCGCCGACGGGCTCTTCACG
CTGGTACTGCCCGTCAACATCGCGGAGCACCTGCTGCAGTACTGGCCCTTCGGGGAG
CTGCTCTGCAAGCTGGTGCTGGCCGTCGACCACTACAACATCTTCTCCAGCATCTAC
TTCCTAGCCGTGATGAGCGTGGACCGATACCTGGTGGTGCTGGCCACCGTGAGGTCC
CGCCACATGCCCTGGCGCACCTACCGGGGGGCGAAGGTCGCCAGCCTGTGTGTCTGG
CTGGGCGTCACGGTCCTGGTTCTGCCCTTCTTCTCTTTCGCTGGCGTCTACAGCAAC
GAGCTGCAGGTCCCAAGCTGTGGGCTGAGCTTCCCGTGGCCCGAGCGGGTCTGGTTC
AAGGCCAGCCGTGTCTACACTTTGGTCCTGGGCTTCGTGCTGCCCGTGTGCACCATC
TGTGTGCTCTACACAGACCTCCTGCGCAGGCTGCGGGCCGTGCGGCTCCGCTCTGGA
GCCAAGGCTCTAGGCAAGGCCAGGCGGAAGGTGACCGTCCTGGTCCTCGTCGTGCTG
GCCGTGTGCCTCCTCTGCTGGACGCCCTTCCACCTGGCCTCTGTCGTGGCCCTGACC
ACGGACCTGCCCCAGACCCCACTGGTCATCAGTATGTCCTACGTCATCACCAGCCTC
AGCTACGCCAACTCGTGCCTGAACCCCTTCCTCTACGCCTTTCTAGATGACAACTTC
CGGAAGAACTTCCGCAGCATATTGCGGTGCGCGGCCGCACGGGGACGCACCCCACCC
AGCCTGGGTCCCCAAGATGAGTCCTGCACCACCGCCAGCTCCTCCCTGGCCAAGGAC
ACTTCATCGTGA
(SEQ ID No: 51)

Figure 4M
Amino Acid sequence of the hGPR22-Enhanced Receptor

MCFSPILEINMQSESNITVRDDIDDINTNMYQPLSYPLSFQVSLTGFLMLEIVLGLG
SNLTVLVLYCMKSNLINSVSNIITMNLHVLDVIICVGCIPLTIVILLLSLESNTALI
CCFHEACVSFASVSTAINVFAITLDRYDISVKPANRILTMGRAVMLMISIWIFSFFS
FLIPFIEVNFFSLQSGNTWENKTLLCVSTNEYYTELGMYYHLLVQIPIFFFTVVVML
ITYTKILQALNIRIGTRFSTGQKKKARKKKTISLTTQHEATDMSQSSGGRNVVFGVR
TSVSVIIALRRAVKRHRERRERQKRVFRMSLLIISTFLLCWTPISVLNTTILCLGPS
DLLVKLRLCFLVMAYGTTIFHPLLYAFTRQKFQKVLKSKMKKRVVCAAARGRTPPSL
GPQDESCTTASSSLAKDTSS
(SEQ ID No: 52)

Figure 4N
Nucleotide sequence of the hGPR22-Enhanced Receptor

ATGTGTTTTTCTCCcaTTCTGGAAATCAACATGCAGTCTGAATCTAACATTACAGTG
CGAGATGACATTGATGACATCAACACCAATATGTACCAACCACTATCATATCCGTTA
AGCTTTCAAGTGTCTCTCACCGGATTTCTTATGTTAGAAATTGTGTTGGGACTTGGC
AGCAACCTCACTGTATTGGTACTTTACTGCATGAAATCCAACTTAATCAACTCTGTC
AGTAACATTATTACAATGAATCTTCATGTACTTGATGTAATAATTTGTGTGGGATGT
ATTCCTCTAACTATAGTTATCCTTCTGCTTTCACTGGAGAGTAACACTGCTCTCATT
TGCTGTTTCCATGAGGCTTGTGTATCTTTTGCAAGTGTCTCAACAGCAATCAACGTT
TTTGCTATCACTTTGGACAGATATGACATCTCTGTAAAACCTGCAAACCGAATTCTG
ACAATGGGCAGAGCTGTAATGTTAATGATATCCATTTGGATTTTTTCTTTTTTCTCT
TTCCTGATTCCTTTTATTGAGGTAAATTTTTTCAGTCTTCAAAGTGGAAATACCTGG
GAAAACAAGACACTTTTATGTGTCAGTACAAATGAATACTACACTGAACTGGGAATG
TATTATCACCTGTTAGTACAGATCCCAATATTCTTTTTCACTGTTGTAGTAATGTTA
ATCACATACACCAAAATACTTCAGGCTCTTAATATTCGAATAGGCACAAGATTTTCA
ACAGGGCAGAAGAAGAAAGCAAGAAAGAAAAAGACAATTTCTCTAACCACACAACAT
GAGGCTACAGACATGTCACAAAGCAGTGGTGGGAGAAATGTAGTCTTTGGTGTAAGA
ACTTCAGTTTCTGTAATAATTGCCCTCCGGCGAGCTGTGAAACGACACCGTGAACGA
CGAGAAAGACAAAAGAGAGTCTTCAGGATGTCTTTATTGATTATTTCTACATTTCTT
CTCTGCTGGACACCAATTTCTGTTTTAAATACCACCATTTTATGTTTAGGCCCAAGT
GACCTTTTAGTAAAATTAAGATTGTGTTTTTTAGTCATGGCTTATGGAACAACTATA
TTTCACCCTCTATTATATGCATTCACTAGACAAAAATTTCAAAAGGTCTTGAAAAGT
AAAATGAAAAAGCGAGTTGTTTGTGCGGCCGCACGGGGACGCACCCCACCCAGCCTG
GGTCCCCAAGATGAGTCCTGCACCACCGCCAGCTCCTCCCTGGCCAAGGACACTTCA
TCGTGA
(SEQ ID No: 53)

Figure 5A
Amino acid sequence of the β_2AR-V2R chimera

MGQPGNGSAFLLAPNRSHAPDHDVTQQRDEVWVVGMGIVMSLIVLAIVFGNVLVITAI
AKFERLQTVTNYFITSLACADLVMGLAVVPFGAAHILMKMWTFGNFWCEFWTSIDVLC
VTASIETLCVIAVDRYFAITSPFKYQSLLTKNKARVIILMVWIVSGLTSFLPIQMHWYRAT
HQEAINCYANETCCDFFTNQAYAIASSIVSFYVPLVIMVFVYSRVFQEAKRQLQKIDKSE
GRFHVQNLSQVEQDGRTGHGLRRSSKFCLKEHKALKTLGIIMGTFTLCWLPFFIVNIVHV
IQDNLIRKEVYILLNWIGYVNSGFNPLIYCRSPDFRIAFQELLCARGRTPPSLGPQDESCTT
ASSSLAKDTSS
(Seq. ID No. 54)

Figure 5B
Amino acid sequence of the MOR-V2R chimera

MDSSTGPGNTSDCSDPLAQASCSPAPGSWLNLSHVDGNQSDPCGLNRTGLGGNDSLCP
QTGSPSMVTAITIMALYSIVCVVGLFGNFLVMYVIVRYTKMKTATNIYIFNLALADALAT
STLPFQSVNYLMGTWPFGTILCKIVISIDYYNMFTSIFTLCTMSVDRYIAVCHPVKALDFR
TPRNAKIVNVCNWILSSAIGLPVMFMATTKYRQGSIDCTLTFSHPTWYWENLLKICVFIF
AFIMPILIITVCYGLMILRLKSVRMLSGSKEKDRNLRRITRMVLVVVAVFIVCWTPIHIYVI
IKALITIPETTFQTVSWHFCIALGYTNSCLNPVLYAFLDENFKRCFREFCAAARGRTPPSL
GPQDESCTTASSSLAKDTSS
(Seq. ID No. 55)

Figure 5C
Amino acid sequence of the D1AR-V2R chimera

MAPNTSTMDEAGLPAERDFSFRILTACFLSLLILSTLLGNTLVCAAVIRFRHLRSKVTNFF
VISLAVSDLLVAVLVMPWKAVAEIAGFWPFGSFCNIWVAFDIMCSTASILNLCVISVDRY
WAISSPFQYERKMTPKAAFILISVAWTLSVLISFIPVQLSWHKAKPTWPLDGNFTSLEDTE
DDNCDTRLSRTYAISSSLISFYIPVAIMIVTYTSIYRIAQKQIRRISALERAAVHAKNCQTT
AGNGNPVECAQSESSFKMSFKRETKVLKTLSVIMGVFVCCWLPFFISNCMVPFCGSEET
QPFCIDSITFDVFVWFGWANSSLNPIIYAFNADFQKAFSTLLGCYRLCAAARGRTPPSLGP
QDESCTTASSSLAKDTSS
(Seq. ID No. 56)

Figure 5D
Amino acid sequence of the 5HT1AR-V2R chimera

MDVLSPGQGNNTTSPPAPFETGGNTTGISDVTVSYQVITSLLLGTLIFCAVLGNACVVAA
IALERSLQNVANYLIGSLAVTDLMVSVLVLPMAALYQVLNKWTLGQVTCDLFIALDVL
CCTSSILHLCAIALDRYWAITDPIDYVNKRTPRRAAALISLTWLIGFLISIPPMLGWRTPED
RSDPDACTISKDHGYTIYSTFGAFYIPLLLMLVLYGRIFRAARFRIRKTVKKVEKTGADT
RHGASPAPQPKKSVNGESGSRNWRLGVESKAGGALCANGAVRQGDDGAALEVIEVHR
VGNSKEHLPLPSEAGPTPCAPASFERKNERNAEAKRKMALARERKTVKTLGIIMGTFILC
WLPFFIVALVLPFCESSCHMPTLLGAIINWLGYSNSLLNPVIYAYFNKDFQNAFKKIIKCN
FCAAARGRTPPSLGPQDESCTTASSSLAKDTSS
(Seq. ID No. 57)

Figure 5E
Amino acid sequence of the β3AR-V2R chimera

MAPWPHENSSLAPWPDLPTLAPNTANTSGLPGVPWEAALAGALLALAVLATVGGNLLV
IVAIAWTPRLQTMTNVFVTSLAAADLVMGLLVVPPAATLALTGHWPLGATGCELWTSV
DVLCVTASIETLCALAVDRYLAVTNPLRYGALVTKRCARTAVVLVWVVSAAVSFAPIM
SQWWRVGADAEAQRCHSNPRCCAFASNMPYVLLSSSVSFYLPLLVMLFVYARVFVVA
TRQLRLLRGELGRFPPEESPPAPSRSLAPAPVGTCAPPEGVPACGRRPARLLPLREHRALC
TLGLIMGTFTLCWLPFFLANVLRALGGPSLVPGPAFLALNWLGYANSAFNPLIYCRSPDF
RSAFRRLLCRCAAARGRTPPSLGPQDESCTTASSSLAKDTSS
(Seq. ID No. 58)

Figure 5F
Amino acid sequence of the Edg1R-V2R chimera

MGPTSVPLVKAHRSSVSDYVNYDIIVRHYNYTGKLNISADKENSIKLTSVVFILICCFIILE
NIFVLLTIWKTKKFHRPMYYFIGNLALSDLLAGVAYTANLLLSGATTYKLTPAQWFLRE
GSMFVALSASVFSLLAIAIERYITMLKMKLHNGSNNFRLFLLISACWVISLILGGLPIMGW
NCISALSSCSTVLPLYHKHYILFCTTVFTLLLLSIVILYCRIYSLVRTRSRRLTFRKNISKAS
RSSEKSLALLKTVIIVLSVFIACWAPLFILLLLDVGCKVKTCDILFRAEYFLVLAVLNSGT
NPIIYTLTNKEMRRAFIRIMSCCKCAAARGRTPPSLGPQDESCTTASSSLAKDTSS
(Seq. ID No. 59)

Figure 6A

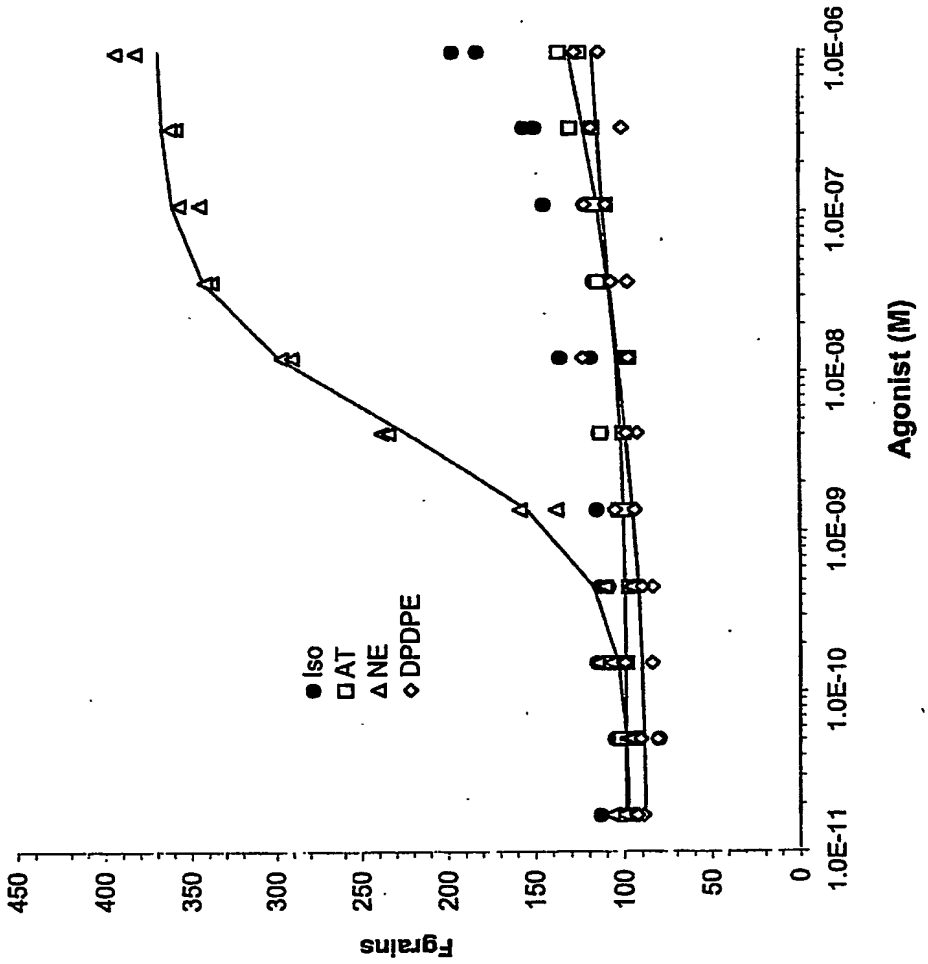
α1b-AR
Iso
AT
NE
DPDPE
Fgrains
Agonist (M)
450
400
350
300
250
200
150
100
50
0
1.0E-11
1.0E-10
1.0E-09
1.0E-08
1.0E-07
1.0E-06

Figure 6B

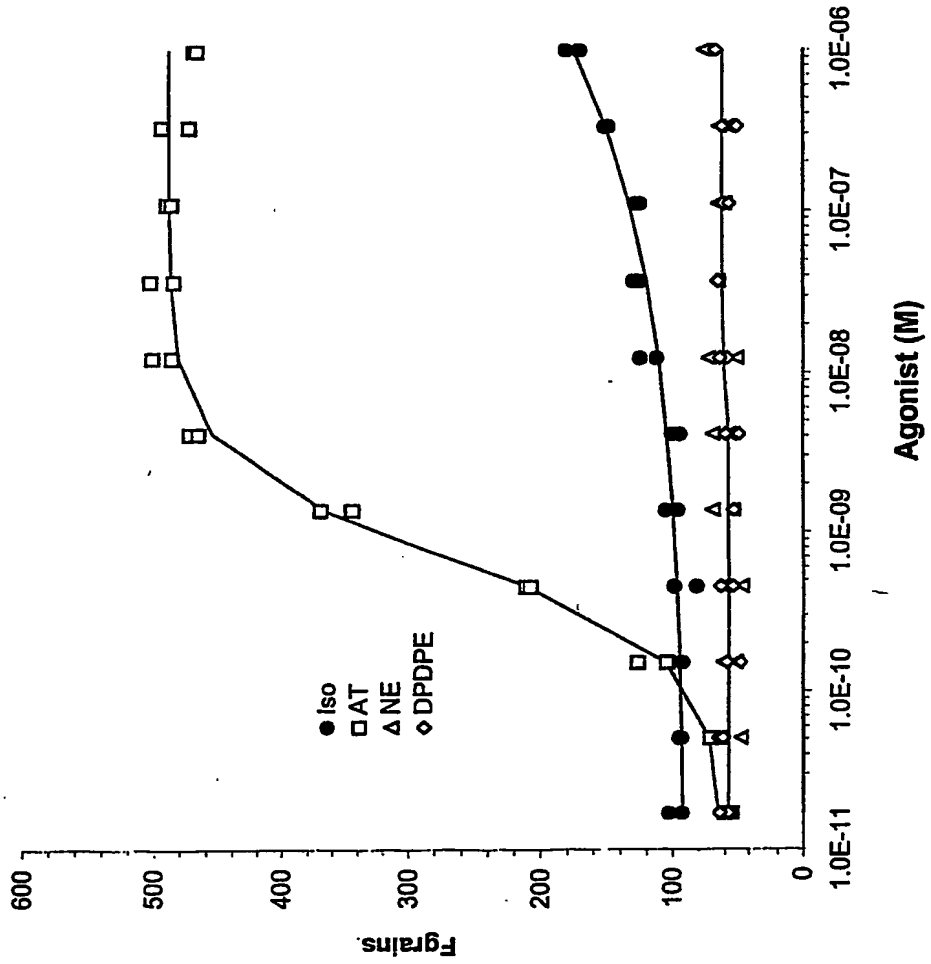
AT1aR
Fgrains
600
500
400
300
200
100
0
1.0E-11
1.0E-10
1.0E-09
1.0E-08
1.0E-07
1.0E-06
Agonist (M)
Iso
AT
NE
DPDPE

Figure 6C

β2-AR

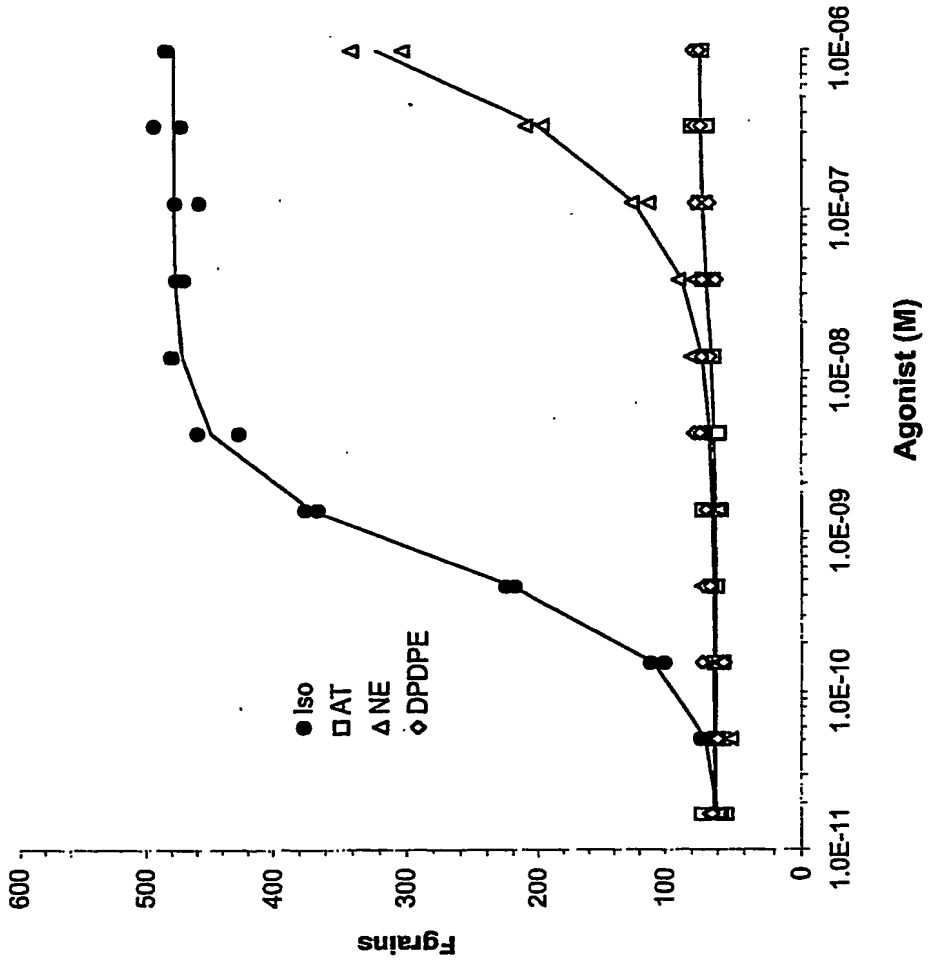

Figure 6D

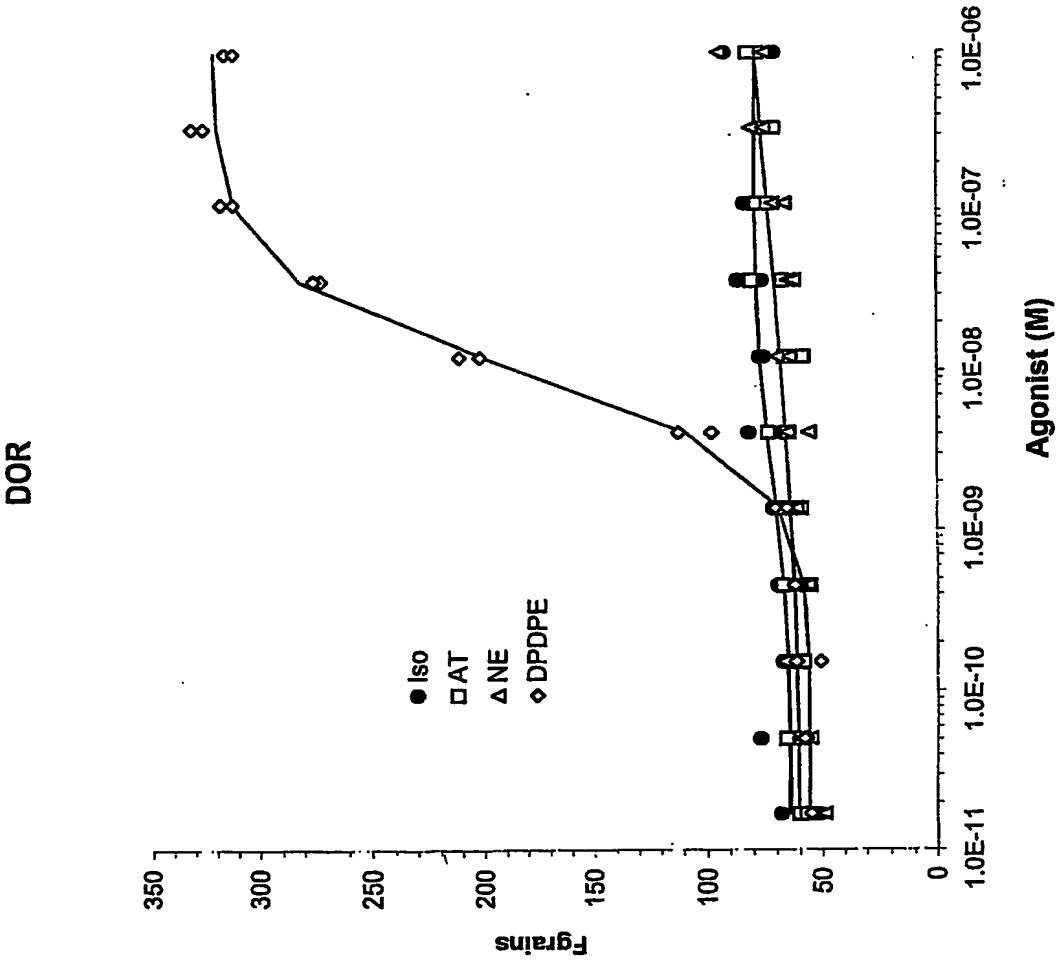
DOR
Fgrains
Agonist (M)
Iso
AT
NE
DPDPE
350
300
250
200
150
100
50
0
1.0E-11
1.0E-10
1.0E-09
1.0E-08
1.0E-07
1.0E-06

Figure 6E

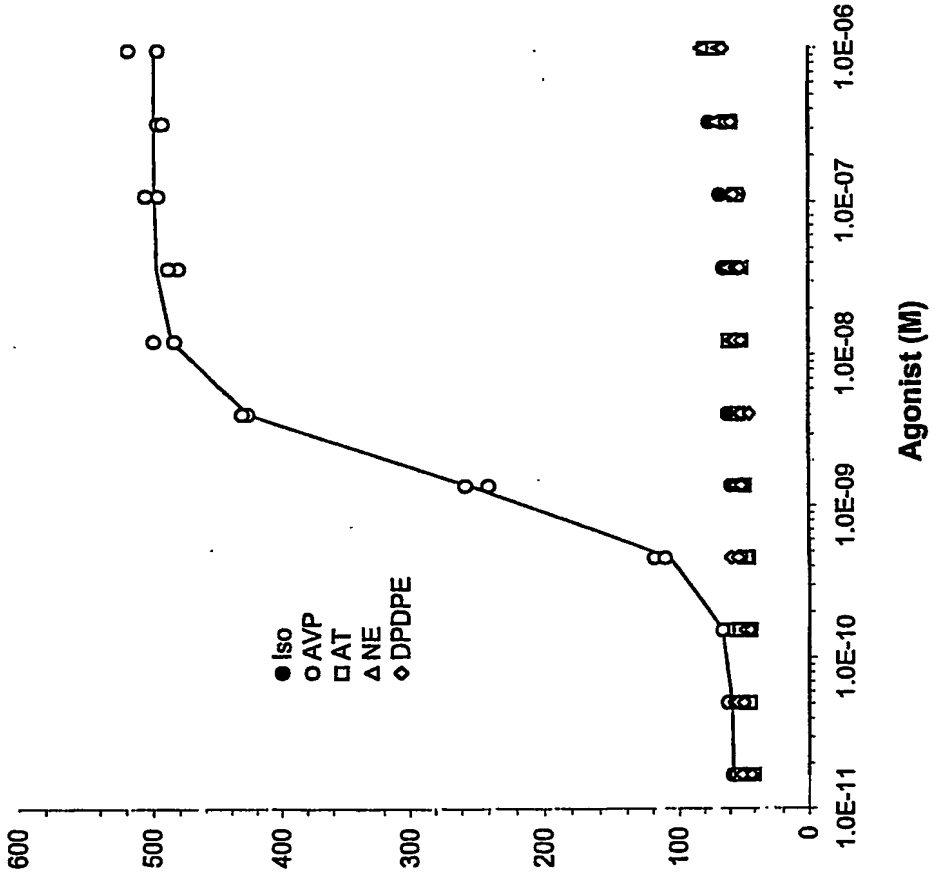
Vasopressin2
Iso
AVP
AT
NE
DPDPE
600
500
400
300
200
100
0
1.0E-11
1.0E-10
1.0E-09
1.0E-08
1.0E-07
1.0E-06
Agonist (M)

Figure 7

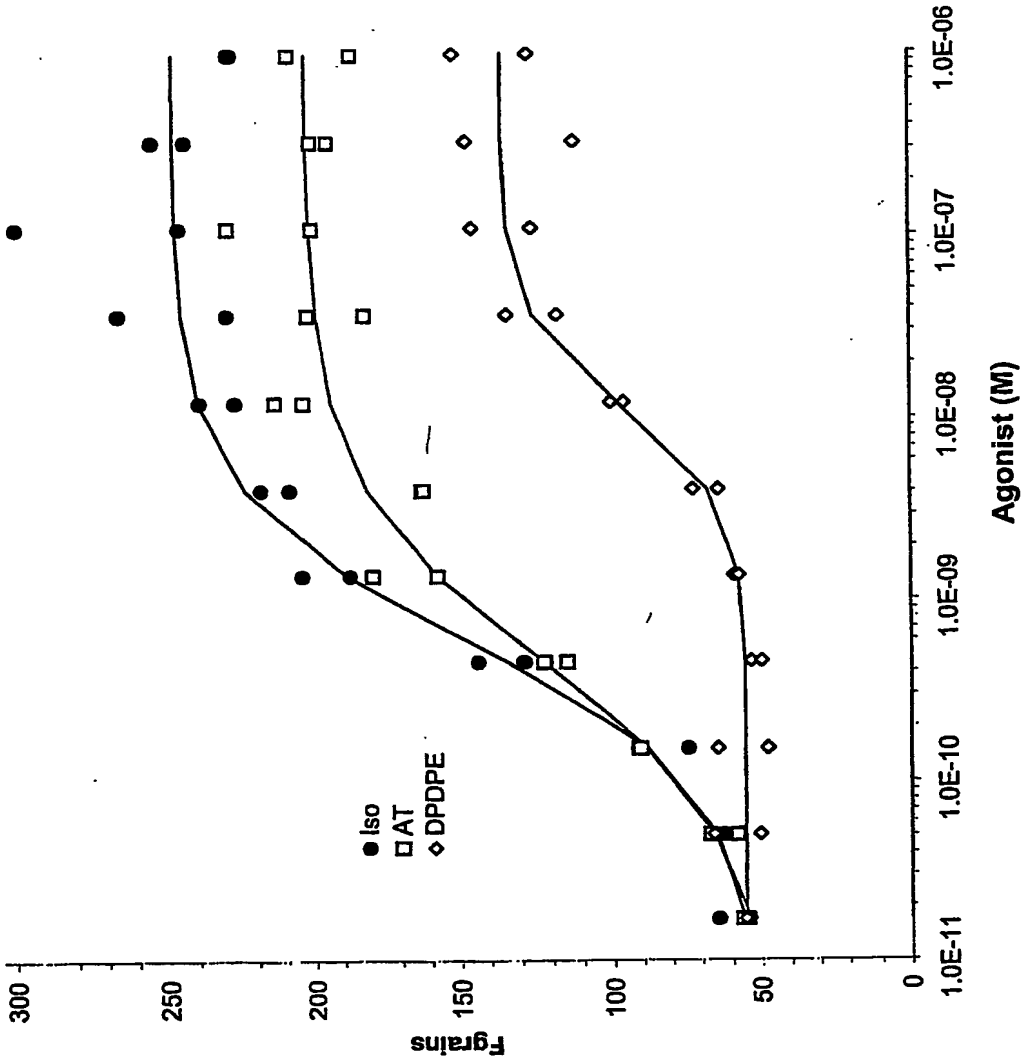
Fgrains
300
250
200
150
100
50
0
1.0E-11
1.0E-10
1.0E-09
1.0E-08
1.0E-07
1.0E-06
Agonist (M)
Iso
AT
DPDPE

Figure 8

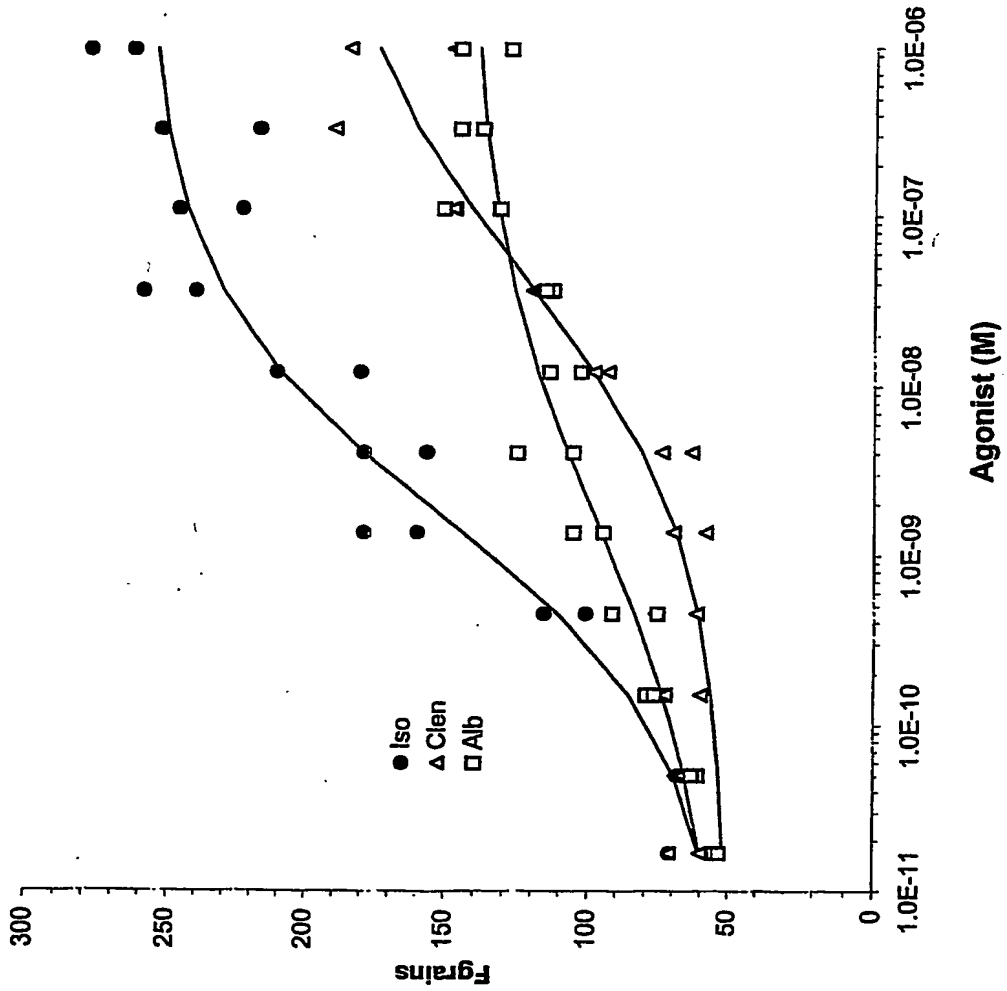
Fgrains
300
250
200
150
100
50
0
1.0E-11
1.0E-10
1.0E-09
1.0E-08
1.0E-07
1.0E-06
Agonist (M)
Iso
Clen
Alb

Figure 9

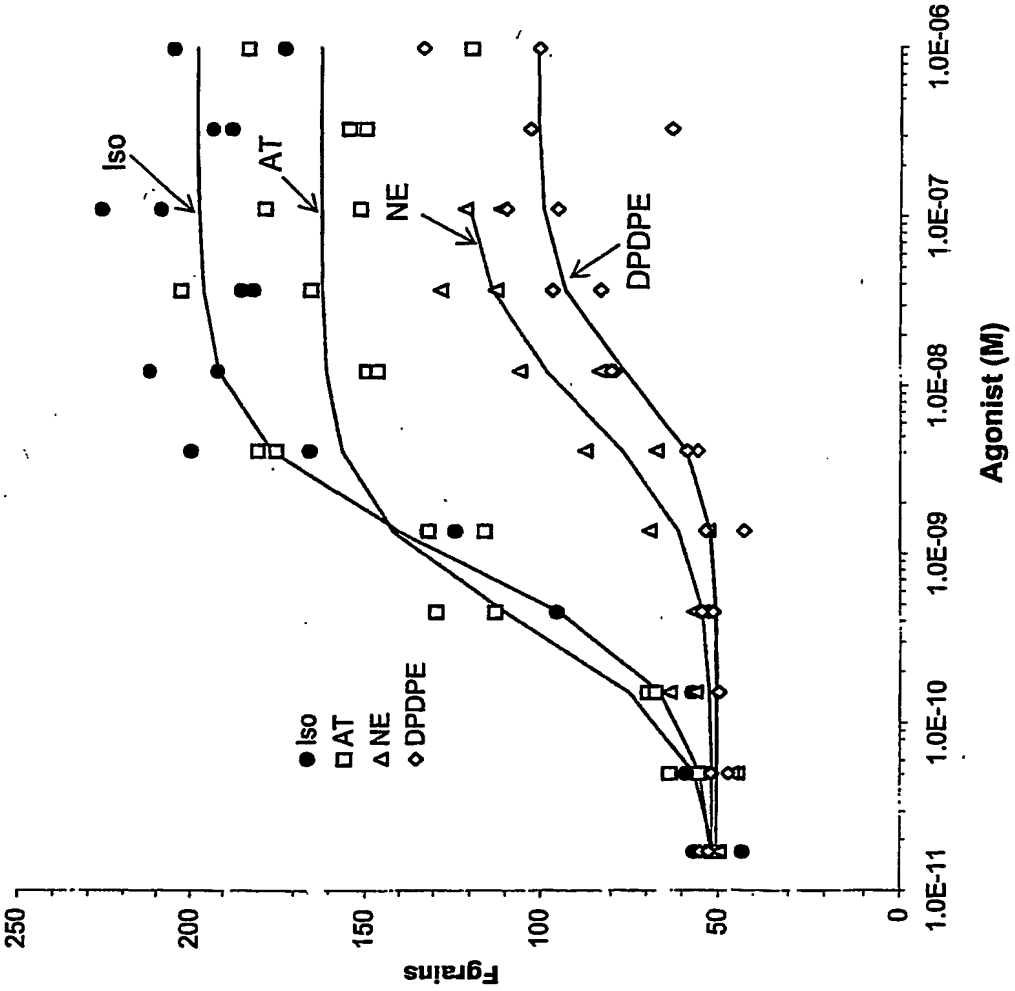
Iso
AT
NE
DPDPE
Fgrains
250
200
150
100
50
0
1.0E-11
1.0E-10
1.0E-09
1.0E-08
1.0E-07
1.0E-06
Agonist (M)

Figure 10

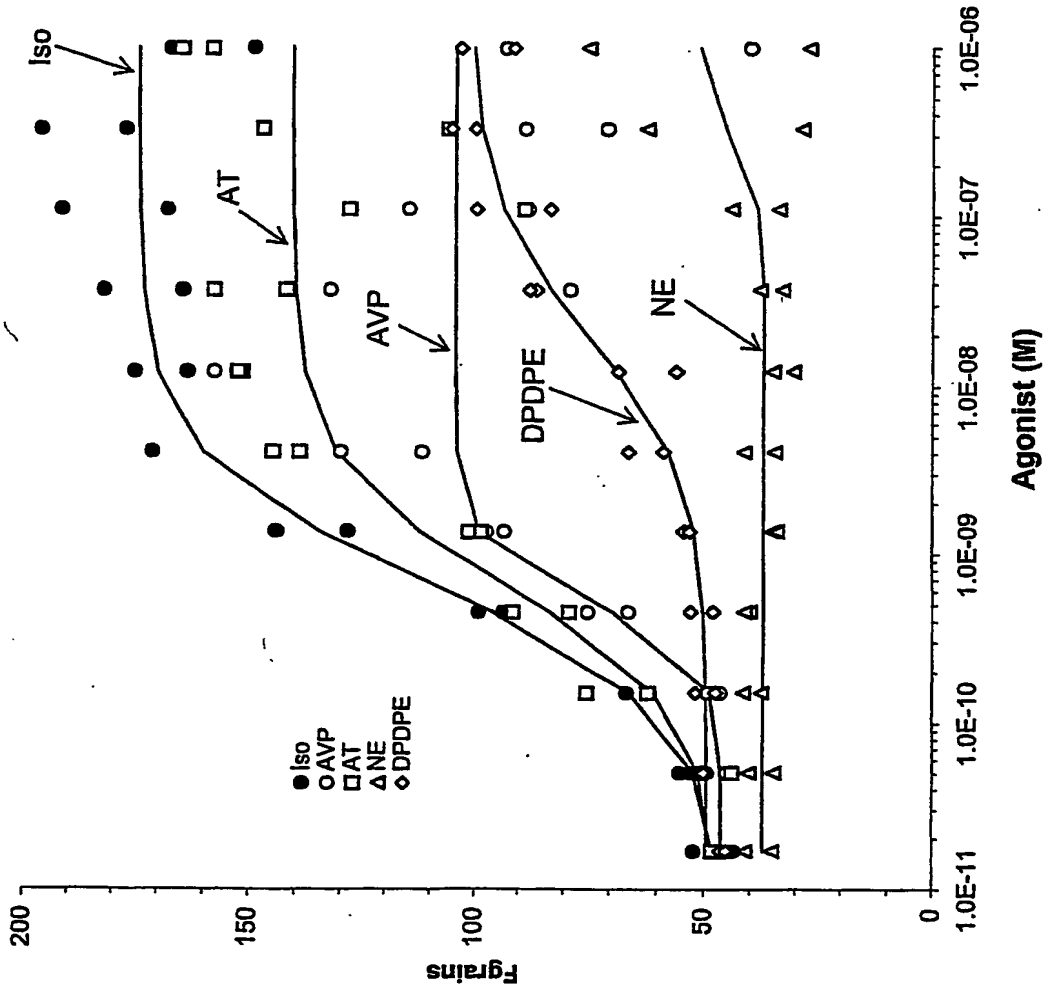
Iso
AT
AVP
DPDPE
NE
Iso
AVP
AT
NE
DPDPE
Fgrains
200
150
100
50
0
1.0E-11
1.0E-10
1.0E-09
1.0E-08
1.0E-07
1.0E-06
Agonist (M)

Figure 11

α1bAR	β2AR	DOR	multi	Name
132	172	48	243	Terfenadine
125	189	85	213	Indatraline
101	152	83	208	Trifluoperazine
118	45	-4	111	(-)-Epinephrine
6	2	-3	110	Haloperidol
141	96	5	108	N-Methyldopamine
20	116	-4	99	p-Iodoclonidine
17	35	-4	83	S(+)-Isoproterenol
55	91	-1	77	R(-)-Isoproterenol
62	19	-4	75	Clonidine
-3	3	2	72	GABApentin
147	129	-4	68	(-)-a-Methylnorepinephrine
54	102	-1	66	(±)-Isoproterenol
-2	8	-2	63	Cyclosporin A
128	52	-7	61	L(-)-Norepinephrine
-2	-1	126	57	GR-89696 fumarate
41	83	45	54	Calcimycin
-4	-16	1	53	5'-N-Methyl carboxamidoadenosine
21	-9	3	52	R(-)-2,10,11-Trihydroxyaporphine
131	-8	-5	49	6-Fluoronorepinephrine
25	-6	7	47	WB-4101
5	5	-1	46	(±)-gamma-Vinyl GABA
8	-1	0	42	R(-)-SCH-12679
-11	0	-8	42	(±)-Vanillylmandelic acid
-6	-17	-4	40	Nimodipine
55	-5	-2	39	(±)-Octopamine
16	-11	2	38	(±)-SKF 38393
44	129	37	29	U-73122
53	0	-2	29	6,7-ADTN
7	5	44	28	SB 242084
9	61	5	26	NPC-15437
102	8	-4	26	Dopamine
-22	76	7	25	Sanguinarine
99	-1	-9	25	1-Methylhistamine
64	-6	-4	24	Methoxamine
71	140	0	20	Thioridazine
4	98	4	10	(±)-SKF-38393
4	2	64	9	ICI 204,448
74	10	-4	7	Phenylephrine
43	-9	2	4	R(-)-Apomorphine
8	-1	51	0	Nialamide
-7	46	-3	-3	(±)-CGP-12177A
18	40	-5	-6	(±)-6-Chloro-PB
85	-14	-4	-6	Cirazoline
11	125	-7	-7	SB 224289 HCl
23	68	-7	-9	GBR-12909 di
60	-12	-7	-10	R(-)-N-Allylnorapomorphine
4	57	1	-14	Tranylcypromine
-5	46	-3	-25	S(+)-alpha-Fluoromethylhistidine
130	6	1	-27	S(+)-Raclopride L-tartrate
-8	49	-4	-31	Thiothixene
5	219	-8	-31	Bethanechol

Figure 12

α1bAR	β2AR	DOR	multi	Name	Selectivity
118.1	45.4	-3.6	110.6	(-)-Epinephrine	-
64.3	-5.7	-4.0	23.8	Methoxamine	alpha1
11.6	8.9	-3.1	10.0	Oxymetazoline	alpha2A
73.5	10.4	-3.6	7.2	Phenylephrine	alpha1
-6.9	46.1	-3.2	-2.6	(±)-CGP-12177A	beta
55.4	91.1	-1.1	77.0	R(-)-Isoproterenol	beta
17.1	35.1	-4.0	82.6	S(+)-Isoproterenol	beta
54.4	101.8	-0.9	65.7	(±)-Isoproterenol	beta
127.6	52.2	-7.0	61.4	L(-)-Norepinephrine	alpha, beta1
130.6	-7.5	-5.1	49.1	6-Fluoronorepinephrine	alpha
84.6	-13.6	-3.9	-6.5	Cirazoline	alpha1a
24.0	-3.2	-2.3	-35.2	Guanabenz acetate	alpha2
20.2	115.8	-4.3	99.2	p-Iodoclonidine	alpha2
34.2	6.9	-1.0	11.6	UK 14,304	alpha2
62.3	18.9	-3.6	75.5	Clonidine	alpha2
-2.0	-7.8	-6.7	-19.8	BRL 37344 sodium	beta3
23.4	5.1	-1.8	-1.0	Nylidrin	beta
20.1	-1.8	-10.9	-18.3	Xylazine	alpha2
23.9	9.7	-1.7	-5.7	p-Aminoclonidine	alpha2
7.2	9.1	6.4	9.3	Dobutamine	beta1
147.4	129.3	-4.1	68.0	(-)-alpha-Methyl NorEpi	-
54.7	-4.9	-2.4	39.2	(±)-Octopamine	alpha

Figure 13

F	257*	102	66	86	86	62	67	123*	59	64	197*	90	86	60	65	63	62	71	56	60	65	200*
G	61	117*	78	80	157*	107	66	74	71	59	76	73	56	239*	109	47	64	58	62	52	82	54
H	220*	58	82	85	79	69	70	86	75	97	80	76	59	56	57	70	195*	52	52	67	65	59
I	219	215	198	214	210	213	214	242	240	232	229	212	186	206	145	144	72	87	50	50	52	54
J	81	150**	59	60	83	81	82	79	102**	103**	62	197**	63	65	204**	73	48	84	62	214**	57	59
K	90	72	67	216**	81	68	78	59	56	94	69	62	179**	65	77	53	59	44	66	60	39	54
L	72	79	102**	77	86	74	203**	66	62	53	62	72	61	61	70	72	199**	50	50	54	99**	70
M	309	273	239	277	177	175	159	203	143	156	118	140	87	84	80	64	75	66	57	67	57	82
N	120***	85	122***	70	60	75	84	79	64	78	56	74	60	74	60	73	49	48	70	63	63	77
O	106***	93	88	79	58	58	70	65	69	72	82	56	169***	60	87	63	89	259***	59	65	71	78
P	76	87	255***	95	66	79	73	77	143***	117***	58	62	73	70	62	75	76	71	57	160***	52	122***

indicates wells into which agonist was added

* = isoproterenol

** = angiotensin

*** = norepinephrine